Simulation based training

Are simulation and didactic crisis resource management (CRM) training synergistic?

J B Cooper

Simulation may have an additive component to classroom style training, at least in the short term

Full environment simulation is achieving wide adoption despite weak evidence of its impact on outcome. It is doing so because it has strong face validity, creates much enthusiasm from both students and teachers, and because it is what other high hazard industries do to mitigate errors and to create and maintain a culture of safety. Yet most of us working with simulation technologies and techniques generally try to maintain our objectivity. We ask ourselves if it really does what we think it does, how much fidelity is needed to achieve our educational goals, and how we weigh the costs and benefits. When we are using it for non-technical training such as improving teamwork, we want to understand how it should be used to meet the real objective—creating real lasting behavior and culture changes that will make health care more effective and safer.

The paper in this issue of *QSHC* by Shapiro and colleagues[1] demonstrates a model for using simulation to sustain behavior change and adds some additional evidence to bolster our general beliefs. But, as often happens with studies of educational and training interventions, we are left with many more questions than answers and are disappointed by an underpowered study, although not by much. That is not the fault of the investigators whose underlying methods were an advance over what we usually see in the world of non-technical simulation based training. The fault lies with having so few resources to perform the robust research designs needed, and also with the challenges of doing any research on human performance in naturalistic settings.

What is the utility of high fidelity, high realism, simulation based training for non-technical skills and culture change? We have plenty of evidence that those who experience it usually feel strongly that it is important for teaching skills which they do not otherwise experience or practice.[2 3] We have anecdotes illustrating how it appears to impact on clinical performance.[4] Almost anyone who uses simulation to teach or reinforce teamwork or crisis resource management (CRM, or crew resource management as it is called in aviation) has encountered students who say they altered their fundamental way of doing things and working with their colleagues. I have heard many of these stories first hand, so I know the passion of those who have had such a transformational experience. That is one of the most useful applications of this form of simulation: transformational change for those who need first to recognize the problem before they can start to work on it. But fundamental, lasting, outcome altering organizational change cannot come with single interventions of one type. The important illustration from this study is how simulation can be coupled with other forms of CRM techniques to sustain improvements. Neither simulation nor non-simulation based training is likely to be effective alone for their intended purposes. Aviation, maritime, and nuclear industries all use combinations of stand-up training and simulation based training to establish and maintain human factors programs intended to minimize error, mitigate the error chain, and enhance performance. We get some tantalizing evidence in this new report that simulation has an additive component, at least in the short term, to classroom style training.

The general methodology used by Shapiro *et al* is illustrative of the kind of trials needed to produce evidence of transfer-of-training. The groups are randomized, there are sound validated measures of behavior with a measure of inter-rater reliability, and the raters are blinded to which cohort they are observing. But the study also demonstrates the flaws typical of educational studies: the sample size is too small, it is not linked to patient health outcomes (injury, death, reduced length of stay in hospital), there is no cost/benefit measure, and there are many sub-elements in the independent variable (degree of realism, quality of instruction, time of instruction, time between the MedTeams and simulation training) which can strongly impact on the effectiveness of training but are not examined in the experiment.

It is easy to criticize educational studies. I have not personally been involved with a successful one that is up to the standards of the ''hard'' sciences (which often themselves give us answers that later prove to be wrong by further research). This is difficult work but it needs to be done—even with the flaws—because each piece of evidence adds something to what we know. We also have to be willing to publish the negative results and to validate tools and approaches for studying simulation.[5 6]

Regardless of any criticism I might have of studies of simulation, when it comes to adopting simulation as an integral component of creating high reliability healthcare organizations, I accept and promote Gaba's observation that ''... no industry in which human lives depend on the skilled performance of responsible operators has waited for unequivocal proof of the benefits of simulation before embracing it.''[7] Why should health care be different?

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Informed consent

Informed consent: don't throw out the moral baby with the critical bath water

L Doyal

Informed consent is one of the most important bricks in the edifice of ''right'' medical treatment, but low standards must be recognised and corrected

It is well over two decades since Ian Kennedy published ''*Unmasking Medicine*'' based on his Reith lectures.[1] He launched an inspired attack on medical paternalism in the UK which in many important respects has now been won—at least in principle. Clinical practice is now expected to embody the duty both to protect life and health and to respect individual autonomy—the right of competent patients to make informed choices about their medical options. Indeed, it is now both legally and professionally clear that, when these two duties are in conflict, the latter trumps the former. Ultimately, the competent adult patient has the final say about whether or not to accept or reject proposed treatment, even when refusing may mean death.

There is now a well articulated body of statute and case law designed to reinforce the right of patients to consent to or refuse treatment on the basis of appropriate information. Guidance from the GMC and professional organisations—particularly the BMA—does the same.[2 3] The Department of Health has issued specific instruction about the standard of obtaining consent to which Trusts are expected to conform, including the structure and content of consent forms.[4] In relation to medical education, courses abound in ethics and law applied to health care that emphasise the moral and legal importance of obtaining consent to a reasonable standard. Similarly, courses in communication skills are now offered to engender in young doctors the abilities required to meet this standard. Despite some continuing problems of organisational sensitivity—those of the sort highlighted in the Bristol Inquiry—we should not underestimate just how far the NHS has come with regard to respect for the autonomy of patients.[5] This should be recognised and applauded.

IS CONSENT TRULY INFORMED?

Study by Habiba *et al*[6]

In this issue of *QSHC*, however, a timely, interesting, and particularly well referenced paper by Habiba *et al* suggests the danger of too much optimism in this regard.[6] The appearance of obtaining formal written consent may reflect a reality that is far removed from the moral goal of respect for individual autonomy. In a qualitative study based on a population of 25 women who had experienced either elective or emergency O&G surgery, they conclude that the process of obtaining informed consent can become a ritualised formality that has little to do with either effective communication or even the confirmation of real choices when consent forms are signed. With regard to elective care, many of the women interviewed felt that that the process of obtaining consent often had little to do with the goals of educating them to make a truly informed choice. Further, other women receiving emergency care did not see the point of the consent process at all and sometimes did not refuse care when they said that they really wanted to. Among other things, the authors conclude that, if informed consent is going to live up to its moral ambitions, the complexity of the consent process should receive greater attention in conventional bioethics literature.

One of the most useful aspects of this study is its narrative methodology. In articulating it, the authors implicitly stress the importance of Trusts auditing the quality of consent obtained by staff and point out that, for this to be effective, it must include more than checking whether or not basic formalities of consent and signing consent forms are being observed. Institutional rituals of obtaining consent must not be confused with truly informed choice, and ways need to be found of monitoring the degree to which staff are achieving anything like the latter. The methodology of such audits should always include some element of triangulation through in depth discussion with a reasonable sample of patients about the quality of their experience.

General view

It is important, however, to place this particular research into a wider context. On the one hand, many discussions within the literature on consent also stress the importance of the quality of the learning processes of patients and of the relative insignificance of consent forms in this regard. For example, recent guidance from the Department of Health states that: ''*When a patient formally gives their consent to a particular intervention, this is only the end point of the consent process. It is helpful to see the whole process of information provision, discussion and decision-making as part of 'seeking consent'.*''[4] (page 18) The GMC makes similar points in their guidance on consent, as do the BMA and others. Therefore, the question that is posed is why, in light of our understanding of these dangers, does this ritualisation of consent continue in so many settings?

The general answer is partly reflected in the moral maxim: ''ought implies can''. There is little point insisting that someone ought to do something in principle when they are incapable of doing so in practice. Clearly, as the authors suggest, the experience of the process of communication prior to the signing of consent forms should be a rich and textured one. However, for this to be achieved much remains to be done. Despite undergraduate courses in ethics, law and communication skills, the fact remains that many healthcare professionals have not had such learning experiences. Without a common denominator of basic skills, it is difficult to know what can reasonably be expected of staff.

Furthermore, against the background of a health service increasingly driven by targets, it has become commonplace that consultation time has fallen. Without sufficient time for an empathetic relationship to develop between clinician and patient, along with sufficient time to communicate even minimum